

CORPS' PONDENT



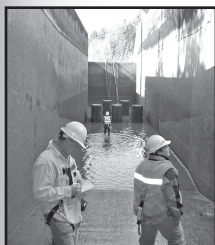
US Army Corps
of Engineers
Portland District

Vol. 30, No. 3 March 2006

INSIDE THIS ISSUE: DAM SAFETY

3
National Women's
History Month

6
Dam Safety



8
*When Disaster
Strikes:
Follow These
Procedures!*

11
Flat Stanley Visits
Bonneville Dam

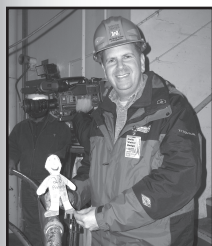


PHOTO BY HEIDI HELWIG

Crews at Bonneville Lock and Dam prepare to slide a SLED, or Sea Lion Exclusion Device, into place in early February. Twenty four SLEDs will cover the 12 fishway entrances at the dam, letting fish in and keeping sea lions out.



Portland District employees have unique opportunities on a daily basis to accomplish amazing things. With 19 dams in nearly as many communities throughout Oregon, these feats can have far-reaching and long-lasting impacts on the Corps and downstream communities alike. Therefore, it should come as no surprise to any of you that dam safety is a national priority and a critical area for us here in Portland District. Operating and maintaining our structures in the safest way possible is high on our list of non-negotiable missions; it is imperative we do all within our capability to prevent loss and life and protect taxpayer's investments.

We have a great group of people in Portland District who lead our dam safety program by coordinating formal inspections at the dams, as well as train on-site personnel to recognize signs of distress or damage to the structures.

Even with the best teams engaged in the most effective processes, however, things can and will go wrong. Case in point is Fern Ridge Dam. We just passed the one-year anniversary of the Corps' shift in focus from investigations and evaluation to immediate repair of the dam. Our view of the risks posed by the failing dam, however, were only part of the story. They had to be weighed against other risks across the nation. Fortunately, the repair of the 64-year-old structure ranked high on the national priority list and was repaired in one season.

This year, however, Fern Ridge repairs may have been ranked differently on the national scale because of other work around the country. For instance, last September, Kansas City District was awarded the initial phase of a five-phase contract to stabilize the sands beneath Tuttle Creek Dam against earthquakes. The \$200 million and seven-year Tuttle Creek Dam Safety project is expected to be the largest ground modification project on an operational dam anywhere in the world, and is the largest dam safety modification ever undertaken by the U.S. Army Corps of Engineers.

I wish my colleagues in Kansas City luck with this project and ask our own folks to continue their good work in ensuring the safety and operational effectiveness of our multiple purpose lock and dam projects.



Col. Thomas O'Donovan


Personnel Safety:

Though dam safety is critical, there is nothing more important than keeping District employees safe, especially in the wake of a disaster.

Though employees eventually will be asked to report to work after a disaster, the District's goal is to minimize risks to employees by asking them to initially stay home until more information is provided. This concept is explained in the Continuity of Operations plan, a plan designed to ensure continuous performance of essential functions and operations during an emergency. The document is discussed briefly in the "When Disaster Strikes" article on page 8 in this issue.

Following the basic plan will help us protect essential facilities, equipment, records and other assets; reduce disruptions to operations; reduce or prevent loss of life and help us achieve a timely and orderly recovery from an emergency. If need be, our sister district, Walla Walla, would aid in recovery efforts.

After Hurricane Katrina hit, New Orleans District leadership weighed the risks and benefits of having employees report to work. Following that disaster, about 200 employees reported to work, ready to do what they could to support District recovery actions. This is a great tribute to them, their dedication and the district's effective execution of its COOP.

Our ability to plan now to meet the demands of the future will keep us viable, regardless of our surrounding environment. 

CORPS'PONDENT



US Army Corps of Engineers
Portland District

is an unofficial offset publication authorized under provisions of AR 360-1, published monthly by the Public Affairs Office of the Portland District, U.S. Army Corps of Engineers. Circulation 2000. The Corps'pondent is circulated to District employees, retirees, and persons who request it in writing. The views and opinions expressed herein are not necessarily those of the Army.

Contributions, on computer disc or as hard copy, are welcome. If you have news tips or suggestions for articles, call (503) 808-4510, or forward them address them to the following address:

Editor, Corps'pondent

Portland District
U.S. Army Corps of Engineers
P.O. Box 2946
Portland, Oregon 97208-2946
Email: CENWP-PA@usace.army.mil
All manuscripts are subject to editing prior to publication.

Commander

Col. Thomas O'Donovan
Chief, Public Affairs
Matt Rabe
Editor
Diana Fredlund

Check out the Corps'pondent online at:

<https://www.nwp.usace.army.mil/pa/cp/home.asp>

Publication Services are provided by Schatz Publishing Group.

The Corps'pondent is printed on recycled paper. 

March is _____

National Women's History Month



In honor of **Women's History Month**, the Equal Employment Opportunity office showed a video on former Congresswoman Shirley Chisholm and her bid for the presidency in 1968.

"You don't make progress by standing on the sidelines, whimpering and complaining. You make progress by implementing ideas."

-Shirley Chisholm (1924-2005)

To address the absence of information about women in America's schools, the National Women's History Project led a movement to have Congress designate a celebration to recognize women's historic achievements. The goal was to ensure that information about the myriad ways women have changed America would be part of our children's education.

In 1980, President Carter issued the first Presidential Proclamation calling on the American people to remember the contributions of women. By 1987, 14 governors had declared March as Women's History Month, and that same year, Congress and the President followed by declaring March as National Women's History Month.

This year's theme, ***Women: Builders of Communities and Dreams***, honors the spirit of possibility and hope set in motion by generations of women in their creation of communities and their encouragement of dreams.


Community comes in many forms, and dreams change, expand, and are sometimes fulfilled. ***Women: Builders of Communities and Dreams*** honors women for bringing communities together and restoring hope in the face of impossible odds.

The purpose of women's history is not to idealize women. On the contrary, the stories of women's achievements present an expanded view of the complexity and contradiction of living a full and purposeful life.

Learning about the extraordinary achievements of women helps diminish the tendency to dismiss and trivialize who women are and what they accomplish. In celebrating women's historic achievements, we present an authentic view of history. The knowledge of women's history provides a more expansive vision of what a woman can do. This perspective can encourage girls and women to think larger and bolder and can give boys and men a fuller understanding of the female experience.

We know from research and from anecdotal studies that learning the stories of women's success, talent and accomplishments expands a sense of what is possible for girls and women. Information about women and their successes gives males and females alike a perspective that challenges some of our cultures' most unconscious and archaic assumptions about women.

Thus, women's history becomes a story of inspiration and hope. A story of courage and tenacity. A story of promise, possibility and purpose.

Women's history is our nation's story. It is the story of how women built communities and inspired and nurtured dreams and how they will continue to do so. 

**For more information contact:
The National Women's History Project**

Web: www.nwhp.org

Email: nwhp@nwhp.org

Phone: 707-636-2888



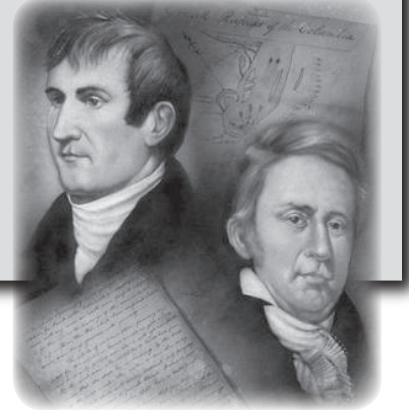
SPECIAL EMPHASIS PROGRAMS



March 1806:

Living Quite Comfortably

By Melissa Rinehart
Operations Division



"We shall not leave our quarters at Fort Clatsop until the 1st of April as we intended, unless the want of subsistence compels us to that measure."

*March 5, 1806
Capt. Meriwether Lewis*

Although they were determined to stay at Fort Clatsop until April 1, the lack of available game sent the expedition on its way before the month's end. Capt. Lewis noted that, "Although we have not fared sumptuously this winter and spring at Fort Clatsop, we have lived quite as comfortably as we had any reason to expect we should; and have accomplished every object which induced our remaining at this place except that of meeting with the traders who visit the entrance of this river."

Many of the men were still recovering from illness and available trade items had greatly diminished. It was during these months at Fort Clatsop that the desire for home became greater. Although new relationships with tribes developed and other discoveries were made, they daily prepared for their return trip.

The captains and members of the expedition were able to learn more about the local tribes during their extended stay at Fort Clatsop, just as they did at Fort Mandan. Lewis made mention of the similar way prisoners are treated among tribes. He

noted that, like other Indian nations, many of the local tribes adopted their slaves into their families and treated them very much like their own children. Food preparation was a necessity that was also learned from area tribes. In preparing candle fish, which was highly perishable, it was noted that "the natives run a small stick through their gills and hang them in the smoke of their lodges, or kindle a small fire under them for the purpose of drying them."

As two of the pirogues had been damaged by the surf, the captains hoped they could trade for a prized Indian canoe. Drewyer acquired a canoe from the Cathlah-mah people. For this canoe he gave Lewis's uniform laced coat and nearly half a carrot of tobacco. "It seems that nothing except this coat would induce them to dispose of a canoe which, in their mode of traffic, is an article of the greatest value except a wife, with whom it is nearly equal, and is generally given in exchange to the father for his daughter."

Although many hard bargains were made, the captains and their crew had gained a respect for many of the local tribes. This was evidenced on March 22 when they left the fort and the furniture within to Chief Comowool.

"He has been more kind and hospitable to us than any other Indian in this neighborhood," wrote Lewis. They also entrusted a

circa 1803



“list of our names to several of the natives... The object of this list is, through the medium of some person who may see the same, it may be made known to the informed world, that the party consisting of the persons whose names are hereunto annexed, and who were sent out by the government of the U’States in May 1804 to explore the interior of the Continent of North America did penetrate the same by way of the Missouri and Columbia Rivers, to the discharge of the latter into the Pacific Ocean, where they arrived on the 14th of November 1805, and from whence they departed March 1806 on their return to the United States by the same rout they had come out. [sic]”

The men sent on hunting expeditions came back with tales of the wild sites they had seen. On March 10, they “informed us that they measured a pine tree which at the height of a man’s breast was 42 feet in the girth about three feet higher, or as high as a tall man could reach, it was 40 feet in girth which was about the circumference for at least 200 feet without a limb, and that it was very lofty about the commencement of the limbs. [sic]” The tree described was a Sitka spruce. To see a tree of this magnitude today, visit the Giant Sitka at Klootch Creek Park, southeast of Seaside, Ore., on Highway 26. It stands 216 feet tall, measures 56 feet in circumference and has a crown that spreads 93 feet! The hunters also told of the vultures (today’s California condors) and eagles that

“devoured 4 deer in the course of a few hours. Joseph Fields informed me that the Vultures had dragged a large buck which he had killed about 30 yards, had skinned it and broken the back bone.”

On March 23, 1806, the members left Fort Clatsop and started on their journey home. Game and food became so scarce that it was necessary to make a gradual start toward the Great Plains. By this time, “two handkerchiefs would now contain all the small articles of merchandize which we possess; the balance of the stock consist of 6 blue robes, one scarlet [robe], one uniform artillerists coat and hat, five robes made of our large flag, and a few old clothes trimmed with ribbon. On this stock we have wholly to depend for the purchase of horses and such portion of our subsistence from the Indians as it will be in our powers to obtain. [sic]” Thus they began their travels east, in the face of heavy rain, wind and current. By the end of the month they came to a vacant village they had visited the previous November. They made note that the “Salmon will begin to run shortly” and heard from Indian visitors that the members of the village had moved to the great rapids (near present day Bonneville Dam) to prepare for the fishing season. Now heading upstream against the current with spring floods on their way, their daily mileage was minimal. The great rapids would pose a challenge in the coming month, but all were now of one mind: home. [sic]

Reference: <http://lewisandclarktrail.com/section4/orcities/astoria/1806history14.htm>

17. Julia Butler Hansen Refuge for the White-Tailed Deer: Wildlife viewing platforms to see deer and elk species first described for science by Lewis & Clark.

18. Cowlitz County Historical Museum: Display on Cowlitz Indian culture.

19. Prescott Beach County Park: The Corps camped “under a point of high ground, with thick pine trees”. Interpretive Sign.



DAM SAFETY

By Heidi Helwig
Public Affairs Office

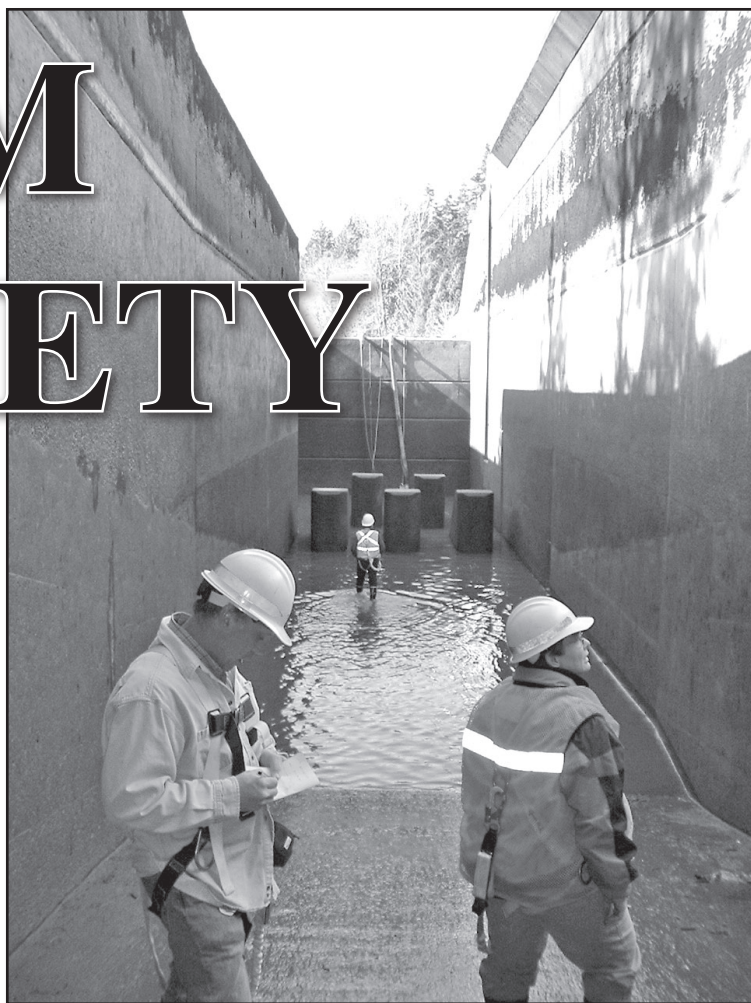
FEATURE

“I can remember spending long, dark, damp days in a foot of water,” Rich Hannan recalled, searching his memory for stories that get better with time. “We had to map the entire length of John Day Lock’s filling and emptying culverts, recording every crack or spall in the concrete,” he said. “Your legs would get tired of walking in the water after two or three days.”

Welcome to the nitty-gritty side of dam safety. Portland District’s Dam Safety program includes work such as periodic inspections, foundation drain inspections, survey monitoring, instrumentation monitoring, bridge inspections and hydraulic steel structures inspections and evaluations. Structures that fall under the Dam Safety Program include 19 high-hazard dams, a sediment retention structure near Mount St. Helens, five navigation locks and 13 hydropower plants within the Columbia, Willamette and Rogue river basins.

Though a lot of the dam safety work requires at-your-desk planning, most is hands-on inspections by people who know the structures and who can recognize signs of distress. In the early 1970s, two of those people were Hannan, who is now chief of the Geotechnical Design Section, and his colleague Jim Griffiths, assistant chief, Hydraulics, Hydrology and Geotechnical Engineering Branch.

Back then, Hannan worked in the section known as Soils, and Griffiths worked in Geology. “It used to be called the Foundation and Materials Branch,”



Jim Hinds, chief, Concrete and Dam Safety, left, and Laurie Ebner, hydraulic engineer, inspect the Fall Creek stilling basin.

Griffiths said. “We were all geo-tech types. This was the standard name for dirt and rock and concrete people. Then, someone decided “Geotechnical” was a better name for this group of people who did those things.”

During the formal, hands-on inspections every five years, an interdisciplinary team of structural, hydraulic, mechanical and electrical engineers and geotechnical specialists inspects all parts of the structure, including gates, valves and operating equipment.

“Accessing certain areas requires team members to have specialized safety training, such as fall protection and confined space entry,” said Carolyn Flaherty, a physical scientist in the Concrete and Dam Safety Section. Structural team members have learned rope-climbing techniques so they can more closely inspect large gates, Flaherty said, who usually leads and coordinates the team inspections.



The rest of the time, engineers monitor instruments installed in the dams that monitor water pressure, seepage and movement so that engineers can analyze the data for signs of distress.


In addition, on-site personnel operate, maintain and inspect the visible parts of the dam as part of their everyday operations. "That's exactly how Fern Ridge started," Hannan said of the depressions found on Fern Ridge Dam by maintenance personnel in 2003. "They were just out mowing the lawn, saw the depressions and reported back to us that 'we don't remember seeing these before,'" he said. District personnel studied and monitored the depressions to find they were symptomatic of the dam's failing internal drainage system. Repairs to the dam were completed in 2005.

Every four years, the cadre of on-site personnel at each dam is required to take dam safety training

Griffiths answered his own question by explaining that all tasks are prioritized in order to address the most urgent items first, though some items may have to be skipped over for a year or two depending on how much they are estimated to cost and how much is available in the budget in a given year.

No matter the budget or prioritization, any work item begun later this year will not have Hannan's and Griffiths' expertise applied to it, as they both will retire from the Corps this month after 34-year and 32-year careers, respectively.

"I actually don't have too many plans as of right now," Griffiths said. "I may eventually work part-time someplace, but I haven't arranged anything yet. My initial plan is to relax a little and catch up on things on my to-do list at home." It's probably safe to say none of the things on that to-do list will include mapping nooks and crannies of a regulating outlet or sharing damp and dark places with crickets.

And, if Hannan spends more time wading in a foot of water, it's doubtful it will be on Corps time. 

... the primary constraint for operations and maintenance activities in the District is adequate funding.

programs provided by the Concrete and Dam Safety Section. "It is always a great opportunity to interact with the project personnel. They always have great questions," Hannan said. The training is also a good opportunity to emphasize to the project staff that they're first observers and responders to any unusual conditions that may arise, Flaherty said.

Just as open communication and teamwork enable the dam safety program, the primary constraint for operations and maintenance activities in the District is adequate funding. As projects age, there are more costs associated with the maintenance and upgrade of instrumentation, additional surveillance and hydraulic steel structures inspections, Griffiths said. "There's quite a backlog of projects. Everything has a risk of being done or not being done. The District has been tasked with getting vital things done, but how long can you defer things?"



Hydraulic engineer Steve Schlenker and another dam inspection team member inspect Applegate Dam's regulating outlet.

CORPS OF ENGINEERS PHOTO



WHEN DISASTER STRIKES . . . FOLLOW THESE PROCEDURES!

By Heidi Helwig, Public Affairs Office
and Jeff Hepler, Operations Division

When disaster strikes, do you know what your role as a District employee is? Jeff Hepler, an emergency plans manager, is working to make sure every employee can answer that question without hesitation.

"It's really very simple," Hepler said. "Stay home, stay informed and stay safe." Prior plans required employees to travel to designated meeting points at shopping malls in the Portland metropolitan area, putting employees at risk. "At the time, that made sense, but those plans have been eclipsed by technology," he said.

Technology isn't the only thing that's changed. "Really, we've changed the way we think. We've changed the way we look at emergency response," Hepler said.

"We have an excellent communications system. Our leadership is equipped with radios and satellite phones," he said. "In the event of a catastrophic event, you need to stay home, stay informed and stay safe until we're able to tell you what the next step is."

Those next steps will be communicated either by phone, Internet or public radio stations, Hepler said. If phone lines are working, employees in the Robert Duncan Plaza can call

the Employee Information Line at (503) 808-4999. If phone lines are down, the District may be able to capitalize on Internet services such as the District's website at <https://www.nwp.usace.army.mil/pa/weather.asp>, or PDXinfo at <http://pdxinfo.net/>. Portland District, as well as area agencies, schools and police and fire bureaus, subscribe to PDXinfo as participating members, Hepler said. "PDXinfo is managed outside of the region," he said, improving chances that emergency information can be updated and relayed in

a timely manner. "We need to have multiple layers of redundancy for communicating with people, because things will fail," he said.

For employees at the outlying multiple purpose projects, they should follow local procedures established by each project's

operations manager, in addition to using the procedures identified above.

Emergency Management Branch personnel have updated the emergency communications plan, which can be viewed at <https://w3.nwp.usace.army.mil/op/e/plans.asp>. Other emergency management plans are periodically updated and tested and are posted on this website, as well, Hepler said.

**"Stay home,
stay informed
and stay safe."**



Disaster Procedures Q&A

1. If there is a disaster during non-working hours that disables normal communications, how will Portland District's leadership communicate?

During a disaster it is likely that normal communications - landline telephones, cellular service, and the Internet - will not be working. For this reason Portland District has prepared and implemented an Emergency Communications Plan (<https://w3.nwp.usace.army.mil/op/e/plans.asp>).

This plan includes the following:

- Key leaders have been provided portable satellite phones and VHF radios
- Major field projects have installed fixed satellite phones and operate VHF radios
- Crisis Management Team (CMT) members and alternates are provided VHF radios

By using VHF radios and satellite phones, the District's leadership will be able to communicate and determine how best to respond to the emergency at hand.

2. Following a disaster, should I attempt to report to work?

No. Do not attempt to leave your residence until you have confirmation that the Robert Duncan Plaza (RDP) or alternate designated facility is operational and travel conditions are safe. Your safety and the safety of your family is paramount.

3. How will I be informed on what to do or where to report following a major disaster?

To the extent possible, employees should follow these procedures:

a) Contact the Employee Information Line. District employees who have an operating landline or cellular phone should contact the Employee Information Line at (503) 808-4999. A recorded message will inform employees of modified

business hours and where to report for work assignments. The Public Affairs Office will update this line as soon as is practicable. If the Employee Information Line is not in service, employees should try calling it again at periodic intervals until successful.

b) Contact District Internet Resources. District employees who have Internet service should log on to the District Home Page at <https://www.nwp.usace.army.mil/>. Portland District also subscribes to a regional emergency website located at <http://www.pdxinfo.net/>. If website access is not immediately available, employees should try logging in again at periodic intervals until successful.

c) Tune in to Local Radio Broadcasts. District employees who are unable to make contact with the Employee Information Line and/or District websites should tune to local radio stations for public service announcements pertaining to the Corps. KEX 1190 AM, KXL 750 AM and KPAM 870 AM are the primary radio stations used by the Public Affairs Office to provide employee information.

4. What can I do to prepare for a major disaster?

You can do at least three things to keep safe at home during a disaster. First, make sure you have a four-day supply of food and water at your residence. Second, make sure your family knows how to shut down all utilities, such as gas and water. Third, keep flashlights, batteries, and a portable radio handy to hear public service messages.

5. Do we still "meet at the mall" or try to "rally employees" elsewhere?

No. The risks of mobilizing employees following a disaster to unsupported locations and under dangerous travel conditions outweigh any

Continued on page 10



benefits. Stay home, stay safe and stay informed. The District commander and Crisis Management Team will be working hard to establish safe operating locations and will transmit this information to the workforce via the Employee Information Line, the Internet, or by public radio.

6. What if the disaster happens while I am at work at the RDP?

The building emergency team, led by Bill Pennebaker in the Logistics Management Office, is

trained to evaluate different disaster scenarios and take appropriate actions. It is important that each employee keep at least one pair of comfortable shoes at work and an extra coat; during a major disaster it is unlikely mass transit will be functioning. Be prepared, to the extent possible, to evacuate, possibly in inclement weather, to the designated assembly location in Tom McCall Waterfront Park. Your preparedness frees up resources needed for those who are injured, handicapped, or unable to move to safer areas without assistance.

THE CORPS GOES TO THE PORTLAND BOAT SHOW

By Pat Barry, Bonneville Lock and Dam

The Portland Boat Show is held every January at the Portland Expo Center. For the past five years the Corps has been there, spreading our message of water safety.

The show organizers offer free booth space to the Corps and other public service organizations. This year, rangers from Bonneville, The Dalles/John Day and the Willamette Valley projects, as well as staff from Public Affairs, worked at the booth answering questions and distributing water safety information for children and adults.

"It just makes sense to go where the boaters go to deliver our water safety message," said David Weiss, park ranger and outreach coordinator for the Bonneville Visitor Center. "This is an audience we might not otherwise reach," he said.

Many boaters are curious about the Corps. They want to know about issues that might impact their boating experiences. They want to know about dredging the Columbia, recent work at Fern Ridge, and the status of the Willamette Falls Locks. Corps

staff made over 1,000 contacts and distributed information about topics such as wearing life jackets, preventing hypothermia, how to use the locks, how to anchor safely in current, and other issues of interest to boaters.

"We plan to attend this venue again next year so we can stay in touch with one of our most important recreating groups," Weiss promised.

For more information about the Corps National Water Safety Program please check the web site: <http://watersafety.usace.army.mil/>.



Ranger Greg Volkman staffed the Corps' water safety booth.

CORPS OF ENGINEERS PHOTO



Flat Stanley Visits Bonneville Dam

By Heidi Helwig
Public Affairs Office



When KGW Channel 8's Vince Patton visited Bonneville Dam to learn about the District's major turbine rehabilitation project, he wasn't alone. He brought a Flat Stanley, sent to him by family friend Kate Derringer, a 3rd grader at Monteith Elementary School in Grosse Pointe Woods, Mich.


Flat Stanley is a reading and journaling project in which students create a flat paper doll and mail it to a friend or relative in another part of the country. That friend or relative plays host to "Flat Stanley" for about two weeks, taking the doll to see area attractions or events. A diary of what Flat Stanley saw or did, along with the paper doll, is then mailed back to the student to share with the classroom.

Patton, along with Kate's "Flat Stanley," saw a glimpse of the turbine replacement and generator rewind work in action on units 2 and 10 in the first powerhouse.

"I'm sure he definitely thought going down in the scroll cage in that tiny elevator was the coolest part of the tour," Patton said of the underground tour he and the paper doll received. "That's a really rare opportunity, to go to the bottom of the turbine!"

By the year 2010, all the original turbines installed in the 1930s will have been replaced with minimum gap runner turbines, and the original generators will have been rewind.

"The turbines and generators had about a 50-year life," said Project Manager Don Erickson. The new generation of turbines and generators will provide at least another 50 years of efficient hydropower production and safer fish passage, he said.

Flat Stanley has been around since 1995 when the reading program began. The effort centers on paper cutouts of the title character from the 1964 children's book "Flat Stanley," by Jeff Brown. In 2005, actor Clint Eastwood carried a Flat Stanley with him to the Oscars. 



Vince Patton, KGW Channel 8, brought "Flat Stanley" along with him on his visit to Bonneville Dam recently.





2006 RETIREE LUNCHEON

Time: 11 a.m. to 1:30 p.m.

Date: May 8, 2006

Place: 3rd Floor, Robert Duncan Plaza
333 S.W. 1st Ave., Portland

Cost: \$12/person until April 30.
Reservations received after April 30 go up to \$15/per person.

Why: To reconnect with old friends, meet new faces and learn the latest about the Corps' work locally and abroad.



Please fill out the reservation form and questionnaire and mail it, along with your payment by April 30 to:

Public Affairs Office
ATTN: Retiree Luncheon
P.O. Box 2946
Portland, OR 97208

The answers to the questions will be included in the *Grapevine* bulletin. The bulletin will be distributed at the luncheon.

Name:

Office retired from:

Number of reservations @ \$12 each: _____

How has retirement changed your outlook on life?

What is the best advice you have for new retirees or those considering retirement?

Address, email and phone number for *Grapevine* bulletin:

**Coming up in the next issue
of the *Corps'pondent*:**

Hurricane Katrina and the Environment